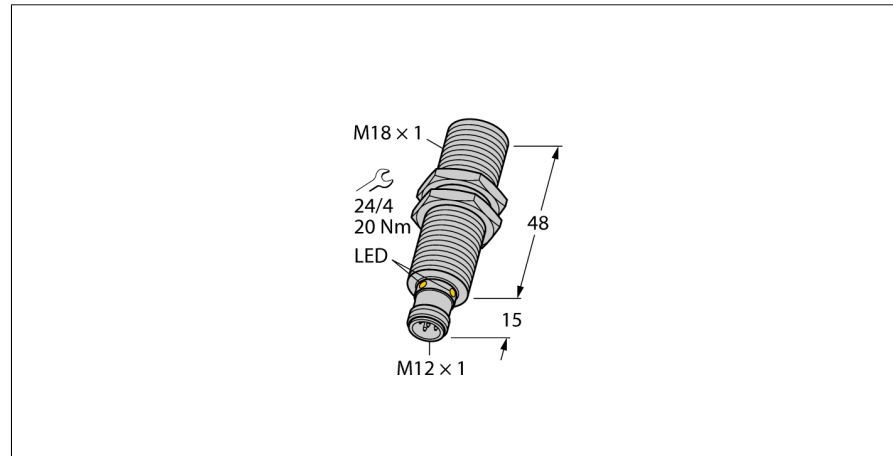


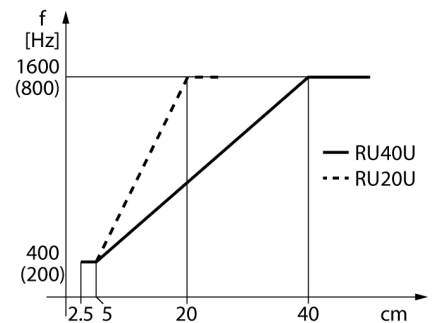
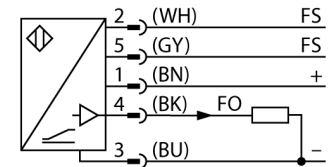
**Ultrasonic Sensor  
Diffuse Mode Sensor  
RU40U-M18M-LFX-H1151**



- Smooth sonic transducer face
- Cylindrical housing M18, potted
- Connection via M12 x 1 male
- Temperature compensation
- Blind zone: 2.5cm
- Range: 40cm
- Resolution: 0.5mm
- Aperture angle of sonic cone: 15°
- Frequency output 240...1600 Hz (60... 400 Hz)
- Frequency range selectable via FS control line (see functional principle)

<b>Type designation</b>	RU40U-M18M-LFX-H1151
Ident-No.	1610021
<b>Function</b>	Ultrasonic diffuse mode sensor
Range	25...400 mm
Resolution	0.5 mm
minimum measuring range	50 mm
minimum switching range	5 mm
Ultrasound frequency	300 kHz
Repeat accuracy	0.15 % of full scale
Temperature drift	1.5% of full scale
Linearity error	≤ ± 0.5 %
Edge lengths of the nominal actuator	20 mm
Approach speed	≤ 3 m/s
Pass speed	≤ 1.3 m/s
<b>Operating voltage</b>	15...30 VDC
Residual ripple	10 % U <sub>in</sub>
DC rated operational current	≤ 150 mA
Residual current	≤ 0.1 mA
Response time typical	60 ms
Readiness delay	300 ms
Switching frequency	10.4 Hz
Short-circuit protection	yes/ Cyclic
Reverse polarity protection	yes
Wire breakage protection	yes
<b>Design</b>	Threaded barrel, M18
Radiation direction	straight
Dimensions	63 x Ø 18 mm
Housing material	Metal, CuZn, Nickel-plated
Transducer material	Plastic, Epoxyd resin and PU foam
Electrical connection	Connector, M12 x 1, 5-wire
Protection class	IP67
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Declaration of conformity EN ISO/IEC	EN 60947-5-7
Vibration resistance	IEC 60068-2
MTTF	281 years
MTTF note	acc. to SN 29500 (Ed. 99) 40 °C

**Wiring Diagram**

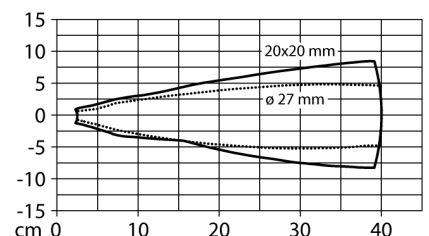


**Functional principle**

Ultrasonic sensors capture a multitude of objects contactless and wear-free with ultrasonic waves. It does not matter whether the object is transparent or opaque, metallic or non-metallic, firm, liquid or powdery. Even environmental conditions such as spray, dust or rain hardly affect their function.

The frequency range can be selected via the control input. If this is connected to ground (-), the lower frequency range is selected. If it is not connected to ground or connected to the supply voltage, the output works in the higher frequency range.

**Sonic Cone**

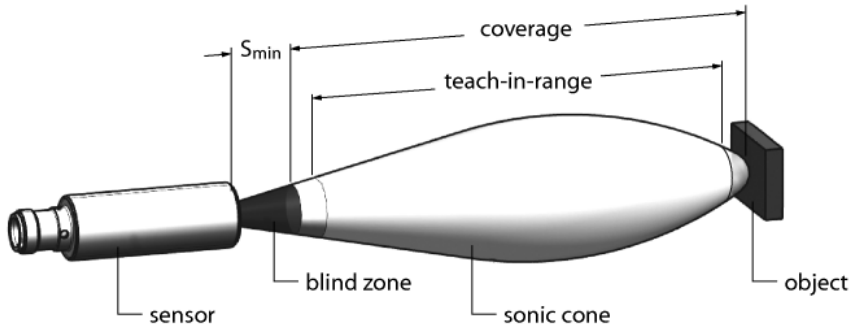


<b>Switching state</b>	LED, Yellow
Object detected	LED, Green

**Ultrasonic Sensor**  
**Diffuse Mode Sensor**  
**RU40U-M18M-LFX-H1151**

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Mounting instructions/Description

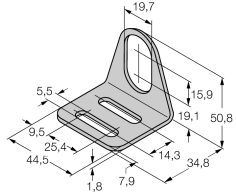


# Ultrasonic Sensor

## Diffuse Mode Sensor

### RU40U-M18M-LFX-H1151

#### Accessories

Type code	Ident-No.	Description	Dimension drawing
MW-18	6945004	Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)	

#### Function accessories

Type code	Ident-No.	Description	Dimension drawing
IM21-14-CDTRI	7505650	Rotation speed monitor with display indication, freely parametrizable monitoring functions, start-up bypass, interlock function, pulse output, current output	